

SHELUD'KO, V.M.; BACHMANOVA, N.I.; DOMNICH, M.O. [Domnych, M.O.]

Attestation of pharmacists in Odessa Province. Farmatsev. shur.
17 no. 4: 74-75 '62. (MIRA 16:3)

(ODESSA PROVINCE—PHARMACISTS)

DOMNICH, M.O. [Domnych, M.C.]; LUTSET, P.G. [Lutset, P.H.]

We are improving the qualifications of pharmacists. Farmatsev. zhur.
17 no.3:83-85 '62. (MIRA 17:10)

1. Kontrol'no-analiticheskaya laboratoriya aptechnogo upravleniya
Odesakogo oblastnogo otdela zdravookhraneniya.

CHUKMASOVA, Mariya Alekseyevna; LAZAROV, Nikolay Mikhaylovich; DOMNICH, N.F.,
retsensent; BULGAKOV, N.I., spetsredaktor; MASLOVA, Ye.F., redaktor;
YAROV, E.M., tekhnicheskiy redaktor

[Beer production] Proizvodstvo piva. Moskva, Pishchepromizdat, 1956.
106 p. (Brewing;) (MLRA 9:7)

DOMNICH, Ya.S., inzhener.

Creative cooperation of engineers and worker inventors. Izobr. v SSSR
2 no.4:41 Ap '57. (MIRA 10:6)

(Inventions)

FRISMAN, E.V.; MARTSINOVSKIY, A.N.; DOMNICHIEVA, N.A.

Optical anisotropy of macromolecules of polystyrene
derivatives. Vysokom. soed. 2 no.8:1148-1153 Ag '60.
(MIRA 13:9)

1. Fizicheskiy institut Leningradskogo gosudarstvennogo
universiteta.

(Styrene)

DOMNICHENKO, Ye. N.

104-3-7/45

AUTHOR: Veselovskiy, A.P., Engineer and Domnicheva, Ye.N.

TITLE: The application of anti-oxidant additives to turbine oils.
(Primeneniye antiokislitel'nykh prisadok k turbinnym maslam)

PERIODICAL: "Elektricheskiye Stantsii" (Power Stations), 1957,
Vol. 28, No.3, pp. 22 - 24 (U.S.S.R.)

ABSTRACT: In the power system of Ivenergo work has been going on since 1940-41 to increase the service life of transformer and turbine oils by the use of adsorbents without stopping the equipment, the regeneration of transformer oil by adsorbents and sodium phosphate and the use of anti-oxidant additives in turbine and transformer oils. As a result the consumption of oil has been much reduced, the reliability of the operation of the equipment has been increased and other benefits have followed. Until 1940 the oil in a turbine type AK-25-1 operating in a base load station was usually changed once a year. At every oil change the oil system was dismantled and carefully cleaned. In 1940 0.01% of additive BTM-1 was added to the oil. At the end of 3 years the neutralisation value of the oil was much less than normal but it contained some finely dispersed sludge and was replaced. However, not all oils are susceptible to additive BTM-1 as has been shown by oxidation tests. However, another additive BTM-8 has been tried at a

Card 1/3

104-3-7/45

The application of anti-oxidant additives to turbine oils.
(Cont.)

concentration of 0.2% with very good oxidation test results. A disadvantage of additive BTM-8 is its liability to cause turbidity of the oil in service by interaction between the additive and certain unstable components of the oil. The oil has to be filtered with a filter press for several days in order to remove turbidity. During three months operation of the oil in a turbine the neutralisation value has remained unchanged. Oil containing additive BTM-1 operated unsatisfactorily in an SSW 35 MW turbo-generator set and had to be regenerated four times in the course of a year. The additive 2,6-ditertiary butyl-4-methyl phenol was added to the oil and gave good results. The main advantage of this additive is that it is easily soluble in the oil, a disadvantage is the high concentration of 0.2% which is required compared with the other anti-oxidants that are used. It is concluded that the use of additive BTM-1 in a concentration of 0.01% in new turbine oils that are susceptible to it increases the service life of these oils by several times. It would be desirable to obtain inhibited type turbine oils direct from the refineries. Alternatively the refineries should ensure that the oil is susceptible to the additive. The service life of turbine oil

Card 2/3

104-3-7/45

The application of anti-oxidant additives to turbine oils.
(Cont.)

is considerably extended by the use of 0.02% of additive BTM-8. This additive should be used immediately after the severest possible regeneration of the oil by an adsorbent. The deposit that forms in the oil in the first days after the addition of the additive should be removed by filtering the oil through a filter press until it is quite clear. The service life of turbine oil can be much increased by the use of alkyl-phenol additive the main advantage of this additive is its easy solubility and no deposits are formed when it is added to the oil. There are 3 figures and 2 Slavic references.

AVAILABLE: Library of Congress

Card 3/3

DOMNICZ, A.

Isotopes in physiological researches.

P. 19. (WSZECHSWIAT) (Warszawa, Poland) No. 1, Jan. 1958

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

DOMNICH, Antoni; JAGIELSKI, Aleksy; LITYNSKI, Tadeusz; LAZARSKA, Barbara;
LAZARSKI, Roman

Contamination of Polish soils with strontium-90. Nukleonika 6 no. 2:135-138
'61.

1. Wyzsza Szkola Rolnicza, Krakow, Katedra Chemii Rolnej i Katedra Fizyki.

LITYNSKI, Tadeusz; DOMNICZ, Antoni

Possibilities and methods of stopping the accumulation of radio-
active Sr^{90} in plants. Postępy nauk roln 10 no.3:121-126 My-Je'63

DOMNIKOV, Ya.I., inzh.

Remodeling the fastening of fuses in the IaSB-100 power box.
Energetik 8 no.2:16 F '60. (MIRA 13:6)
(Electric engineering—Equipment and supplies)
(Electric fuses)

0.0000

AUTHOR:

Domnin, A. E.

78247

SOV/79-30-3-1/69

TITLE:

A. E. Favorskiy (1860-1945). To the Centennial
Anniversary of His Birthday

PERIODICAL:

Zhurnal obshchey khimii, 1960, Vol 30, Nr 3,
pp 704-716 (USSR)

ABSTRACT:

This article commemorates the centenary of the birth of
Alexey Evgrafovich Favorskiy, an eminent Soviet chemist,
educator, editor of the foremost Soviet chemical
journal, and author of many scientific papers. A
brief outline is made of his research in organic
chemistry, which includes 26 papers. A list of 38
related Soviet articles is also given. A list of 38
Leningrad State University (Leningradskiy Gosudarst-
vennyy Universitet)

ASSOCIATION:

December 10, 1959

PRESENTED:

Card 1/1

DOMNIN, F.A., inzh.; MIKHNEVICH, G.A., inzh.

Selecting the parameters of antiskidding systems. Vest. TSNII MPS
24 no.4:16-19 '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy institut tyazhego elektromashino-
stroyeniya.

CP
The triple bond in carbon rings and the probable structure of the simplest cyclic hydrocarbons of the composition C_6H_8 . II. Synthesis of cyclooctyne. N. A. Dominin. *J. Gen. Chem.* (U. S. S. R.) 8, 851-68 (1938); cf. Favorskii, C. 30, 6317. Previous unsuccessful attempts by Favorskii and co-workers in synthesizing 6-, 6- and 7-membered cyclic hydrocarbons with a triple bond are reviewed. With an 8-membered cycle the application of the Favorskii method resulted in the formation of cyclooctyne (I). The required cyclooctanone was prepd. by decomposing salts of azelaic acid by the Ruzicka method (C. A. 20, 2181). The ketone with PCl_5 in petr. ether at a max.

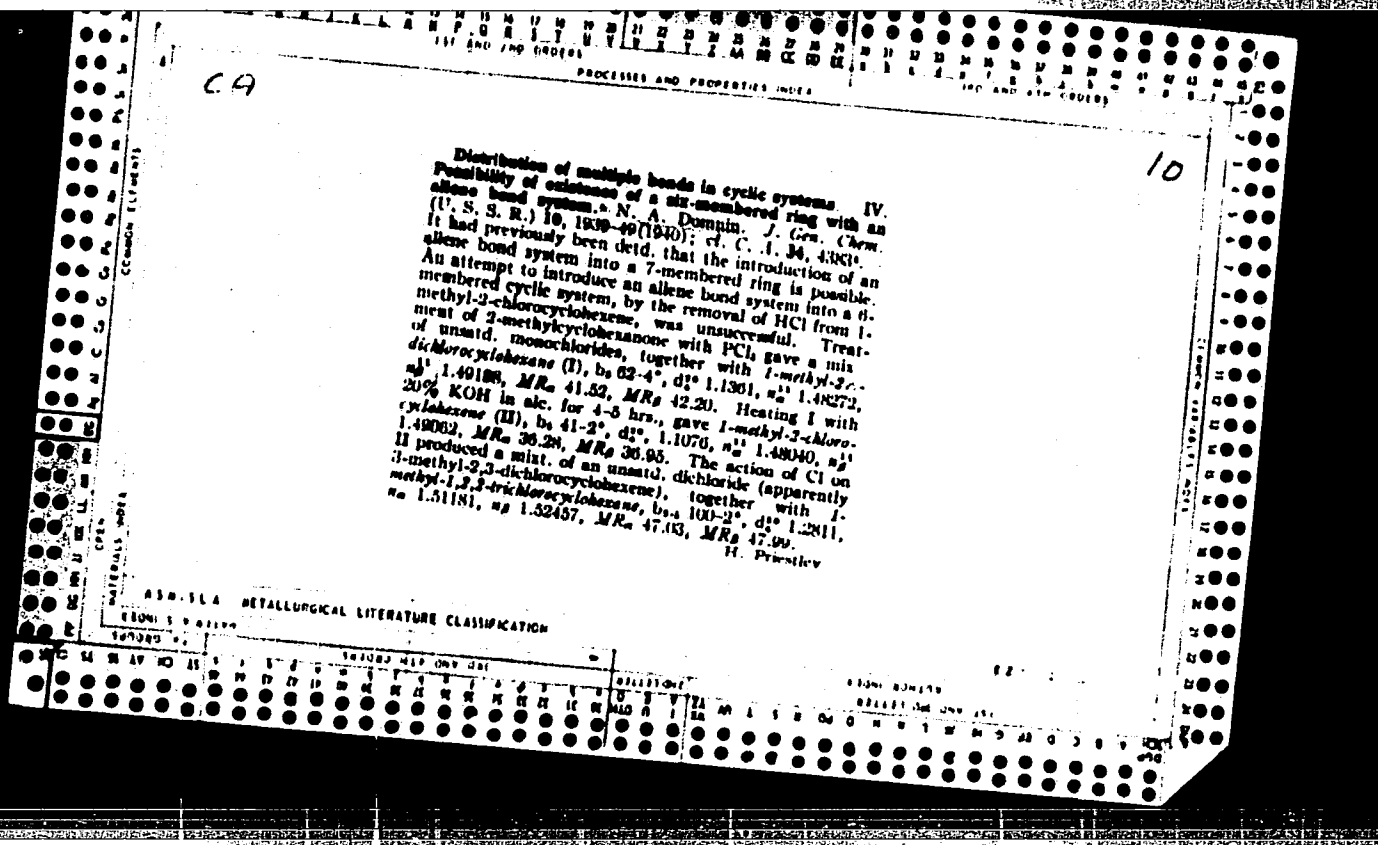
of 40-60° gave a mixt. of $CH_3(CH_2)_3CH_2CCl_2$ and $CH_3(CH_2)_3CH=CCl_2$ (II). The mixed chlorides were exd. with Br_2O and the residue from the Br_2O was treated with 20% alc. KOH at room temp. and then at 60-70°, giving II, b_p 64.8°, d_4^{20} 1.016, n_D^{20} 1.4866, n_D^{25} 1.465, M.R. 40.78, M.R. 41.11. Cooled II in $CHCl_3$ reacts

with Br in $CHCl_3$, forming $CH_3(CH_2)_3CClBr:CHBr$. This treated on a water bath with 20% alc. KOH gave chiefly $CH_3(CH_2)_3CBr:CCl$ (III) and $CH_3(CH_2)_3CH:$

CCl and $CH_3(CH_2)_3CBr:CHBr$. III, b_p 96-100°, d_4^{20} 1.4246, d_4^{25} 1.4109, n_D^{20} 1.5205, n_D^{25} 1.5423, M.R. 48.43, M.R. 49.17, M. 218 (calcd. 223.45). The constitution

was detd. by oxidation with $KMnO_4$ to suberic acid. III in Et_2O treated with 3 mols. Na at room temp. for 6 days gave I, b_p 72.6°, d_4^{20} 0.8140, d_4^{25} 0.8407, n_D^{20} 1.4626, n_D^{25} 1.4708, n_D^{30} 1.4813, M.R. 35.25, M.R. 36.47, M.R. 36.9 (calcd. for C_8H_8 with 1 triple bond: M.R. 34.73, M.R. 35.4, M.R. 35.73). M 111.2 (calcd. 108). The constitution was demonstrated by oxidation with $KMnO_4$ and treatment with O_3 to suberic acid. The dimer and polymers in the distn. residue from I could not be identified. Thuty references.
Chas. Blanc

COMMON ELEMENTS		COMMON MATERIALS		COMMON PROPERTIES	
<p>PROCESSES AND PROPERTIES INDEX</p> <p>CP</p> <p>10</p> <p>Possibility of the existence of cyclic systems with a triple bond. III. Attempt to introduce a triple bond in a substituted six-membered ring. <i>N. A. Chaykin, J. Gen. Chem. (U. S. S. R.)</i> 9, 1081 (1938); <i>C. A.</i> 33, 1282. The triple bond could not be introduced into a substituted 6-membered ring by Pavovski's method (cf. <i>C. A.</i> 30, 6337). The removal of 2 atoms of Br by Na from 1-methyl-3,4-dibromo-3-cyclohexene (I) did not yield the expected 1-methyl-3-cyclohexyne, or its monomeric polymerization products, but only polymerized products. The reaction product of β-methylcyclohexanone with PCl_5 (a mixt. of the unsatd. mono- and dichlorides), on treatment with alc. KOH, gave 1-methyl-4-chloro-3-cyclohexene (II), b_p 80-8°, d_4^{20} 0.9983, n_D^{20} 1.4705, M_R 30.33. Addn. of Br₂ in CHCl_3 to II gave 1-methyl-4-chloro-3,4-dibromocyclohexane (III), b_p 110-20°, d_4^{20} 1.7409. Treatment of III with 20% alc. KOH at 70°, gave I, b_p 95°, d_4^{20} 1.6394, n_D^{20} 1.51004, M_R 48.22. From the reaction product of I with Na, there was isolated a small amt. of a polymerized product, m. 220°, difficultly sol. in the usual solvents. Oxidation of the crude reaction product with HNO_3 gave mellitic acid. H. Priestley</p>					
<p>ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>					
SECOND DIVISION		SECOND PART ONLY ONE		THIRD PART ONLY ONE	
100000	100000	100000	100000	100000	100000



BC

Retardation effect of certain substances on the elimination of halogens. N. A. Dymov (J. Gen. Chem. Russ., 1948, 18, 166-172). In a study of the mechanism of the reaction of Na on 2:3-dichlorocyclohex-1-ene leading to the formation of a product supposed to be a polymer of cyclohex-1:3-diene (II) (A. 1941, 11, 318) maleic anhydride (III) was added to form an identifiable product with place of II in the presence of (II) even near the b.p. of the solvent. The reaction of halogen elimination from PhBr + EtBr (Wurtz-Fittig reaction) by means of Na is also prevented or greatly retarded by (II) and, in addition, by α -C₁₂H₁₁(CO)₂Ag (I), p-nitroaniline, quinol, and PhNO₂. The retardation is the greater the greater is the amount of substance added. If the substance is introduced when the reaction is proceeding, it stops completely and begins again only after a time dependent on the amount added. If a retarded reaction mixture is poured away from the Na and a fresh mixture, without (II) etc., added, reaction begins as usual but the addition of fresh Na to the poured off mixture has no effect. Some substances with negligible or no retarding influence are: AcOH, maleic, succinic, and β -cyanomethyl acids, NH₄Ph, Ba*OH, COMe, and Ba*CHO. Ac₂O retards the polymerization of butadiene.

U. S. S. R.

10

Ca

Unsaturated cyclic hydrocarbons and their halogen derivatives. V. Attempted synthesis of 1,2-cyclohexadiene. N. A. Ivanova (Leningrad State Univ.). *J. Gen. Chem.* (U.S.S.R.) 13, 601-61 (1943) (English summary); cf. C.A. 35, 3079^u. 1,2-Dichloro-2-cyclohexene (25 g.) (I) was added slowly to a boiling suspension of 75 g. Zn dust in 50 cc. EtOH; the mixt. was boiled for 12 hrs. to give 3 g. 1-methoxy-1-cyclohexene (II), b. 141-3°, d₄²⁰ 1.0001, n_D²⁰ 1.4723, n_D²⁵ 1.4632, 3 g. 2-methoxy-1-ethoxy-2-cyclohexene (III), b. 82-4°, d₄²⁰ 1.0812, n_D²⁰ 1.4442, n_D²⁵ 1.4334, and 2.7 g. dichloro-1,1'-bis-2-cyclohexene (IV), b. 133-5°, m. 91.2°. Heating of I with Zn in moist dioxane to 70° led to IV and II. Reaction of I with Na in Et₂O in a sealed tube gave a Cl-free resin analyzed as C₆H₈; use of small amts. of Na gave small amts. of IV. IV (2.2 g.), 3 g. Na, and 25 cc. Et₂O on standing in a sealed tube for 5 days gave 0.3 g. (C₆H₈)_n, b. 305-80°, and an undistillable residue; oxidation of the tetramer and octamer with aq. MnO₂-KMnO₄ gave succinic acid. In no instance was it possible to isolate 1,2-cyclohexadiene. VI. Formation of toluene from 1-methyl-3,4-dibromo-3-cyclohexene. *Ibid.* 400-72. 1-Methyl-3,4-dibromocyclohexene and an equimolar amt. of dry KOH were heated to 200° with diox. of a mixt. of products among which there were identified 1-methyl-1,3-cyclohexadiene, b. 102-3° (yield not given), 1-methyl-4-bromo-3-cyclohexene, b. 70-3°, d₄²⁰ 1.3751, d₄²⁵ 1.3608, n_D²⁰ 1.40425, in 25-6% yield. The latter gave, on oxidation with a satd. soln. of KMnO₄ in the presence of Na₂CO₃ and with heating on a waterbath, β-methylstyrylic acid, m. 70-91°. Treatment of the bromide with Br in CHCl₃ gave 1-methyl-1,4-dibromo-3-cyclohexene, b. 105-8°, d₄²⁰ 1.0090, d₄²⁵ 1.0072, n_D²⁰ 1.54210, n_D²⁵ 1.55558 (40-3%). The latter (30 g.) and 45 g. freshly distd. quinoline were heated to 230-30° to yield 6 g. crude PhMe, from which 2.5 g. pure PhMe was obtained, b. 111°.

G. M. Kordapoff

DOMIN, N. A.

"Investigation in the field of Unsaturated Cyclic Compounds and of their Halogen Derivatives. VI Formation of Toluene from 1-Methyl-3,4-Dibromocyclohexene-3." Domnin, N. A. (p. 469)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1945, Volume 15, no. 6.

Ca

Unsaturated cyclic hydrocarbons and their halogen derivatives. VII. Transformations of the halogen derivatives of cyclohexane into aromatic derivatives. N. A. Dvornin (Leningrad State Univ.). *J. Gen. Chem. (U.S.S.R.)* 16, 1729-30(1946); cf. C.A. 40, 40629. In an effort to explain the previously reported failure to prep. 6-C rings with allene linkage by the classical reactions, expts. were carried out to account for the anomalous behavior of halogenated cyclohexane derivatives on attempted dehalogenation or dehydrohalogenation. In view of testing the hypothesis of cumulative double bonds spontaneously isomerizes to a stable benzoid nucleus. Attempted removal of 211Br from 1,2-dibromocyclohexene (I) failed under all conditions tried: heating with quinoline to 240-300°, heating with alc. KOH to 150° (higher temps. resulted in failure of the sealed tubes used), and heating with solid alkali to 200-300° (this gave some unreacted dibromide and a polymer (C₁₂H₁₄)). I (60 g.) was treated with the theoretical amt. of Br in CHCl₃ at 30-5° (1 hr.) to yield 90 g. crude product, from which 40 g. 1,1,2,2-tetrabromocyclohexene (II), m. 188-90° (from EtOH), was obtained (by a unspecified method); the liquid portion was sepd. by distn. into 3.5 g. 1,21Br and 6 g. o-Br₂C₆H₄, as well as 8 g. starting material. The bromination proceeds only very slowly

in the cold, while at 40-50° (which was used) much 111Br is evolved. The formation of o-Br₂C₆H₄ and splitting off proceeds through successive addition of Br₂ and splitting off of 211Br to yield a final, stable benzoid structure. II (12 g.) was heated with 15 g. quinoline to yield mostly I, b.p. 100-10°, and 1.5 g. o-Br₂C₆H₄; the latter is evidently the product of bromination of the intermediate 2,3-dibromo-1,3-cyclohexadiene by quinoline bromide, followed by loss of 211Br. II (20 g.) was treated with excess alc. KOH on a steam bath (no time specified) to yield I (amt. not given) and 6 g. 2,3-dibromo-1,3-cyclohexadiene (III), b.p. 116-17°, d₄²⁰ 1.0111, d₄²⁵ 1.0091, d₄³⁰ 1.0075, n_D²⁰ 1.50780 (identified by K₂Cr₂O₇ oxidation to succinic and oxalic acids); the latter does not lose Br on heating with CaO, Zn, Cu, or Ag, nor does it condense with maleic anhydride; treatment with Br in CHCl₃ yields a heavy oil which fumes in the air, the reaction proceeding with greater ease than the bromination of I; heating 4 g. of this product (1,2,3,4-tetrabromocyclohexene) with 6 g. quinoline gave o-Br₂C₆H₄, apparently by simple loss of 211Br. I (10 g.) was heated with solid NaOH and a little EtOH in a sealed tube 12 hrs. at 240-400°; treatment with H₂O gave a hydrocarbon layer, which could not be characterized; heating the solid, which could not be characterized, resulted in a brownish layer, which could not be characterized; this was an amorphous product of dehydrohalogenation; this was an amorphous brownish solid, sol. in EtOH, difficultly sol. in CCl₄, of the compn. (C₁₂H₁₄). III treated with excess Na in EtOH readily lost 211Br and yielded a viscous resin which was not further investigated. G. M. Kosolapoff

CA 10

UNSATURATED CYCLOHYDROCARBONS AND THEIR DERIVATIVES.
VIII. Synthesis of 1-cyclobutene-1-carboxylic acid and some of its derivatives. N. A. Domnin and I. P. Yakovlev (Leningrad State Univ.). *J. Gen. Chem. (U.S.S.R.)* 17, 1899-903 (1947) (in Russian); cf. *C.A.* 41, 8901a.

After numerous trials the following procedure was evolved for the prepn. of 1-cyclobutene-1-carboxylic acid (I): 400 g. powd. KOH under 200 cc. dry MePh was treated with 300 g. 1-bromocyclobutanecarboxylic acid in 300 cc. MePh, heated on a steam bath 0.5 hr., cooled, dil. with water, acidified with H₂SO₄, and the aq. layer extd. with Et₂O. On standing, the org. solns. gave a polymer of I as an amorphous ppt. Careful removal of the solvents gave 20-25% I, m. 72° (from benzene). On standing in air or in soln. it yields an amorphous polymer. Addn. of Br to I in moist CCl₄ gave 1,2-dibromocyclobutanecarboxylic acid, m. 95°, b. 130°. The latter in MePh added to a boiling suspension of powd. KOH in PhMe gave a polymeric, Br-contg. product, apparently a polymer of 1,2-dibromo-1-cyclobutene-1-carboxylic acid; in some expts. it was possible to isolate a little 1-hydroxy-2-bromocyclobutanecarboxylic acid, m. 120-1° (from benzene); if the reaction is run at 170-225° in high-boiling kerosene, the product is a Br-free resin and some C₁₁, is evolved. From 18 g. of the di-Br acid boiled with 60 g. powd. KOH in 100 cc. BuOH was obtained 9 g. 1,2-dibromocyclobutanecarboxylic acid, b. 150°, d₄²⁰ 0.9685, d₄²⁵ 0.9633, n_D²⁰ 1.43014. If the reaction was run in Et₂O, only polymers were obtained. (I. M. Komolapuff)

ASO-55A METALLURGICAL LITERATURE CLASSIFICATION

CA

UNSATURATED CYCLIC HYDROCARBONS AND THEIR DERIVATIVES
IX. Action of quinoline and alkali on polyhalo cyclic and
aliphatic hydrocarbons. N. A. Ponomin and V. A.
Cherkasova (Leningrad State Univ.). *J. Gen. Chem.*
(U.S.S.R.) 17, 2283-7(1947)(in Russian); cf. *C.I.* 42,
4149/. -1-Chloro-1,2-dibromocyclohexane (50 g.) and 70
g. quinoline at 120-140° gave 18 g. crude debromination
products (87%), consisting of 4.4 g. PhCl and 8 g. mixed
1-chloro-1-cyclohexene and 2-chloro-1,2-cyclohexadiene
(b. 139-54°); these give adipic and succinic acids on
oxidation by KMnO_4 . When 115 g. Pr_2CO in 1 vol.
petr. ether was added with cooling to 215 g. PhCl in 300 cc.
petr. ether, warming to 40° until HCl evolution ceased,
and ice added, the org. layer gave 101 g. 4-chloro-4-hep-
tene, b. 136-8°, d_4^{20} 0.8850, n_D^{20} 1.45110, n_D^{25} 1.45702, n_D^{30}
1.46244; bromination in CHCl_3 gave 4-chloro-4,5-di-
bromohexane, bp 117-19°, d_4^{20} 1.0410, d_4^{25} 1.0302, d_4^{30}
1.0219, n_D^{20} 1.5106, n_D^{25} 1.51485, n_D^{30} 1.52106. This (42 g.),
and 40 g. quinoline heated to 170° (a spontaneous reaction
raises the temp. to 220°) gave 4-chloro-1-heptene; heating
4-chloro-4,5-dibromohexane with alc. KOH gave 4-
chloro-4-heptene and 4-chloro-5-bromo-4-heptene, bp 78-
80°, d_4^{20} 1.3502, d_4^{25} 1.3324, d_4^{30} 1.3282, n_D^{20} 1.40254; the
latter is stable and adds Br only with difficulty; its Cl and
Br are not removed by hot K_2CO_3 or Na_2CO_3 .
G. M. Kozlovskii

ASB-52-A METALLURGICAL LITERATURE CLASSIFICATION

Development of the A. M. Butlerov theory of chemical

structure and molecular dynamics in the work of A. E.
Favorskii. N. A. Zhuravskii. *Vestnik Leningrad Univ.* 6,
No. 3, 50-110 (1957) --Biographical. M. Huseh

CA

10

Unsaturated cyclic hydrocarbons and their halogen derivatives. X. Transformations of saturated and unsaturated halogen derivatives of cyclopentane. N. A. Durnin and L. I. Ukhova (Leningrad State Univ.), *Dokl. Akad. Nauk SSSR*, 1961, 151, 1031; *Chem. Abstr.* 56:1031. Cyclopentanone gave a mixed dichloride and unsaturated monochloride, yielding with quinoline 1,2-dichlorocyclopentene, b. 112-113°, d₄²⁰ 1.041, which with Cl₂ (Tishchenko, C. 1, 33, 1090) gave 2,4-dichlorocyclopentene (I), b. 41-42°, d₄²⁰ 1.214, n_D²⁰ 1.4002 (KMnO₄ yields succinic acid), and 1,1,2-trichlorocyclopentane, b. 37-38°, d₄²⁰ 1.359, n_D²⁰ 1.4074. The latter (20 g.) added to 22.3 g.

quinoline at 130° and heated to 145-155° gave 6 g. 1,2-dichlorocyclopentene, b. 38-39°, d₄²⁰ 1.252, n_D²⁰ 1.4000 (KMnO₄ yields glutaric acid). Heating I with Zn dust in EtOH in a CO₂ stream gave 2-chloro-2-chlorocyclopentene, b. 64-65°, d₄²⁰ 1.0832, n_D²⁰ 1.4004; a similar reaction with Na in dry EtOH 2 days at room temp. gave a wide range of liquid products and polymers, including apparently 1,1-(5-2-cyclopentenyl), C₁₀H₁₆, b. 52-53°. Introduction of the alkene structure into the 5-membered ring thus could not be accomplished by the usual methods. G. M. Kosolovoff

PA 194728

USSR/Chemistry - Halogenation

Oct 51

"Investigations in the Field of Unsaturated Cyclic Hydrocarbons and Their Halogen Derivatives. XI. The Mechanism of Conjugated Halogenation and Dehalogenation Reactions," N. A. Domina, V. A. Chernavova, B. N. Andreyev, Lab Imeni Acad A. Ye. Favorskiy, Leningrad State U

"Zhur Obech Khim" Vol XXI, No 10, pp 1818-1823

Ultraviolet absorption spectroscopy established that action of quinoline on 1, 2-dibromocyclohexane, quinoline on cyclohexadiene-1, 3 and hexabromoethane, and quinoline HBr on

194728

USSR/Chemistry - Halogenation (Contd)

Oct 51

cyclohexadiene-1, 3 and hexabromoethane yielded products contg resp 10-20%, 85-90%, and ~30% benzene, First stage of conversion of polyhalogen derivatives of cyclohexene into aromatic compds on heating with quinoline is formation of 6-membered ring with conjugated double bonds.

194728

1. DOMIN, N. A.
2. USSR (600)
4. Chemical Structure
7. Development of the theory of chemical structure of A. M. Butlerov in the direction of spatial representations - stereochemistry, Vest. Len. un., 7, No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

~~DOMININ~~
DOMNIN, N. A.

✓ Historical development and the present state of the tetrahedral theory. N. A. Domnin. *Uchenye Zapiski Leningradskogo Universiteta. Seriya Khimicheskie Nauki* No. 155, 157, 158. Nov. No. 11, 116-240 (1952).—Review with 137 references (to 1950) of the theory of the tetrahedral atom. G. M. Kosolapov

N.A. DOMNIN, V.A. CHERKASOVA

May 52

USSR/Chemistry - Hydrocarbons

"Investigation in the Field of Unsaturated Cyclic Hydrocarbons and their Halogen Derivatives
XII. The Mechanism of the Reaction of combined Halogenation and Dehalogenation,"
Lab im Favorskiy, Leningrad State U.

Zhur Obshch Khim, Vol 22, No 5, pp 897-900

It was established by absorption spectroscopy in the ultraviolet part of the spectrum that low-boiling (78-80.5°) fractions of the product of the reaction of cyclohexadiene-1,2 with quinoline tetrabromide in the presence of quinoline contain benzene, bromobenzene, and cyclohexadiene-1,2; the high-boiling fraction (152-158°) contains about 90% bromobenzene. In the reaction of cyclohexadiene -1,3 with quinoline hydrobromide dibromide in the presence of quinoline, a mixt of products containing 90-95% benzene is formed. The reaction bet cyclohexadiene-1,3 and quinoline dibromide in the presence of quinoline forms a mixt of products contg about 20% benzene. The formation of quinoline perbromates is the second stage of transformation of polyhalogen derivs of cyclohexane in aromatic compds upon heating with quinoline.

263 T. 40

DOMENIN, N.A.

~~Historical development and present state of the tetrahedral theory.~~

Historical development and present state of the tetrahedral theory.
Uch. zap. Len. un. no.155:116-249 '52. (MIRA 9:1)
(Chemistry, Organic) (Chemical structure)

DOMNIN, N.A.; CHERKASOVA, V.A.

Research in the field of unsaturated cyclic hydrocarbons and their halogen derivatives. Part 13. Mechanism of the reaction of conjugate halogenation and dehalogenation. Zhur.ob.khim. 23 no.10:1731-1735 0 '53. (MLRA 6:11)

1. Leningradskiy Gosudarstvennyy universitet, Laboratoriya im. A.Ye.Favorskogo.
(Hydrocarbons) (Halogenation)

USSR/Chemistry

Card : 1/1

Authors : Domnin, N. A., and Beletskaya, A. S.

Title : Investigation of unsaturated cyclic hydrocarbons and their halogen derivatives. Part 14. - Formation of bromobenzene, during the reaction of molecular bromine with 1, 2-dibromocyclohexene-1

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 1017 - 1019, June 1954

Abstract : Experiments showed that the reaction of molecular bromine with 1, 2-dibromocyclohexene-1, in comparatively smooth conditions, results in the formation of a mixture of products, consisting of 1, 1, 2, 2-tetrabromocyclohexane, o-dibromobenzene and bromobenzene (8 - 10%). The presence of bromobenzene in the mixture, was proven without any doubt, with the aid of absorption spectroscopy in the ultraviolet part of the spectrum. Two possible processes, leading to the formation of bromobenzene, are discussed. Three references; 1 USSR since 1912.

Institution : State University, Leningrad

Submitted : January 21, 1954

DOMNIN, N. A.

USSR/Chemistry

Card 1/1 : Pub. 151 - 30/42

Authors : Domnin, N. A., and Beletskaya, A. S.

Title : Investigation of unsaturated cyclic hydrocarbons and their halogen derivatives. Part 15.- Reaction of metallic sodium with 1,4-dibromocyclohexene-2

Periodical : Zhur. ob. khim. 24/9, 1636-1638, Sep 1954

Abstract : The conversions taking place during the reaction of metallic sodium with 1,4-dibromocyclohexene-2 were investigated. The product formed during such reaction and its chemical properties are briefly described. A study of the reaction between 1,4-dibromocyclohexene-2 and zinc dust brought negative results. At equal possibilities of forming conjugated and isolated bonds in a six-membered ring, the conjugated bonds were found in predominance. Eight references: 4-USSR; 2-USA and 2-German (1903-1929).

Institution : State University, Leningrad

Submitted : April 5, 1954

Domnin, N. A.

USSR

62
②
Unsaturated cyclic hydrocarbons and their halogen derivatives. XVII. Action of metallic sodium on 2,3-dibromo-1,3-cyclohexadiene. N. A. Domnin, G. K. Krasil'nikova, and V. A. Cherkasova (Leningrad State Univ.). *Zhur. Obshch. Khim.* 24, 1842-5(1954); cf. *C.A.* 49, 11572g.— To 20 g. 1,3-dibromo-1-cyclohexene (I) in CHCl_3 was added with cooling 13.4 g. Br in CHCl_3 ; after 24 hrs. the mixt. was heated to 30–40° and treated with 1–1.5 ml. H_2O , then allowed to stand 24 hrs. and finally heated to 40°. After washing with Na_2SO_4 , the product was distd., yielding the starting material, after which decompn. set in; cooling the residue gave 8.2 g. pure 1,1,2,2-tetrabromocyclohexane, m. 208° (with Zn dust in dioxane this gave I). This treated with 30% excess 20% alc. KOH on a steam bath gave 2,3-dibromo-1,3-cyclohexadiene, bp 116–17°, d_4^{20} 1.8490, n_D^{20} 1.5701 [oxidation with KMnO_4 gave $(\text{CH}_3\text{CO}_2\text{H})_2$ and $(\text{CO}_2\text{H})_2$]. This (10 g.) and 7 g. Na in dry dioxane kept 2 days in a sealed tube gave only a yellowish halogen-free polymer $(\text{C}_6\text{H}_8)_n$ in 2-g. yield. G. M. Kosolapoff.

DOMNIN, N.A.

The field of unsaturated cyclic hydrocarbons and their halogen derivatives. XVII. The cyclooctene problem. N. A. Domnin and T. D. Malysheva (Leningrad State Univ.). *Zhurn. Obshchei Khim.* 25, 329-30; *J. Gen. Chem. (U.S.S.R.)* 25, 311(1953) (Engl. translation); cf. *C.A.* 49, 12317a. The hydrocarbon (I) prepd. earlier (*C.A.* 33, 12824) from Na and 1-chloro-2-bromocyclooctene was examd. by the Raman method. The following Raman frequencies were observed: 150(2), 108(2), 243(4), 305(3), 475(1), 586(1), 705(5), 747(2), 768(4), 857(1), 908(3), 966(3), 1000(1), 1038(1), 1070(2), 1238(4), 1270(7), 1332(5), 1445(10), 1614(1), 1634(4), 1653(5), 2112(4), 2932(10), 2971(10), 3039(10), and 3133(10). The 2112 line shows the triple bond, but the 1600-50 cm^{-1} lines indicate the olefinic linkage as well, thus indicating that I is probably a complex mixt. Oxidation of I with KMnO_4 gave suberic acid. Cf. Blomquist and Lin, *C.A.* 47, 5120b. G. M. Kosolapoff

②

MS

~~S. A.~~ DOMNIN, N. A.

Unsaturated cyclic hydrocarbons and their halogen derivatives. XVIII. Synthesis and study of 1,4-dibromo-2-cyclohexene. N. A. Domnin, N. S. Slutova, and K. M. Mervayev (State Chemical Institute). *Zhurn. Obshchei Khim.* 25, 1493-6 (1955); cf. *C.A.* 49, 17572h; 50, 1629c. Dibromocyclohexene, m. 108-9°, formed by addn. of Br to 1,3-cyclohexadiene, is identical with the product formed from cyclohexene and *N*-bromosuccinimide. There are 3 apparently isomorphous forms of the dibromocyclohexene, m. 99-100°, 103-4°, and 108-9° (or 107-8°), resp. Purely chem. methods cannot be used to prove the structure of 1,4-dibromo-2-cyclohexene. The substance cannot be hydrogenated over Raney Ni, while over Pd there takes place a replacement of 2 Br by 2 H. Electrolytic reduction on Cu electrode covered with Ni black failed to effect the compd. Oxidation with KMnO_4 or O_3 failed to give pos. results.

G. M. Kosolapoff

DOMIN, N. A.

AREJNOV, A.Ye., chlen redaktsionnoy kollegii; VENUS-DANILOVA, E.D., chlen redaktsionnoy kollegii; DANILOV, S.M., redaktor; DOMIN, N.A., chlen redaktsionnoy kollegii; ZAKHAROVA, A.I., sekretar'; KAVRZNEVA, Ye.D., chlen redaktsionnoy kollegii; KLOCHKO, M.A., chlen redaktsionnoy kollegii; LEHENDINSKIY, V.V., chlen redaktsionnoy kollegii; MISHCHENKO, K.P., chlen redaktsionnoy kollegii; SHCHUKAREV, S.A., chlen redaktsionnoy kollegii. YUR'YEV, Yu.K., chlen redaktsionnoy kollegii.

[Collection of articles in general chemistry] Sbornik statei po obshchei khimii. (MLRA 7:5)

1. Akademiya nauk SSSR.
(Chemistry)

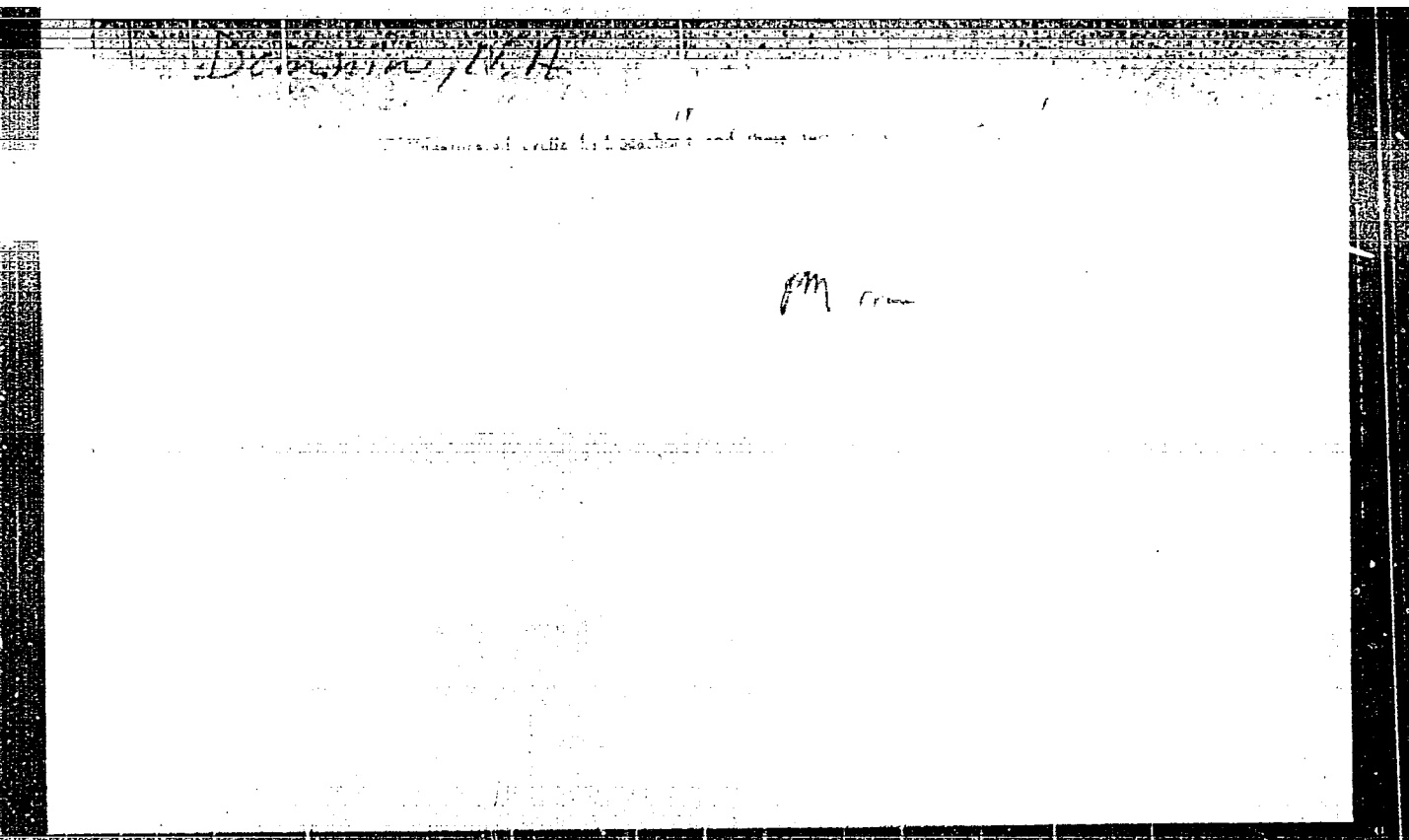
✓ Unsaturated cyclic hydrocarbons and their derivatives.
XIX. Synthesis of 1,2,3-tribromocyclohexane and its reaction with quinuclidine. A. Danneberg and M. A. Lehnert

XIX. Synthesis of 1,2,3-tribromocyclohexane and its reaction with guipelin. S. A. Durnan and M. A. Lachon

Reaction with quinoline. 1. Quinoline (1.0 g, 0.0075 mole) was added to a solution of 5-bromo-1,3-cyclohexadiene (1.0 g, 0.0075 mole) in 10 ml of CH_2Cl_2 . The mixture was stirred at room temperature for 24 hours. The mixture was then poured into 100 ml of water. The organic layer was separated and dried over CaH_2 . The solvent was removed by distillation, leaving a residue of 0.5 g. The residue was then purified by distillation, giving 0.2 g of 5-bromo-1,3-cyclohexadiene, b.p. 100-105°C/0.5 mm Hg. The mother liquor was then distilled, giving 0.1 g of 5-bromo-1,3-cyclohexadiene, b.p. 100-105°C/0.5 mm Hg. The total yield was 0.3 g of 5-bromo-1,3-cyclohexadiene, which then loses HBr to give 1,3-cyclohexadiene, which then loses H_2 to give cyclohexene.

G. M. Kuznetsov

1. Ленинградский государственный университет.
(Циклопентан) (Квиналин).



Domnin, N.A.

~~DOMNIN, N.A.;~~ ~~CHERKASOVA, V.A.~~

Unsaturated cyclic hydrocarbons and their derivatives. Part 20:
Transformation of methylcyclohexanes and methylcyclohexadienes
into dinitrotoluenes under the action of a nitrating mixture.
Zhur.ob.khim. 26 no.6:1616-1618 Je '56. (MIRA 11:1)

Leningradskiy gosudarstvennyy universitet.
(Toluene) (Cyclohexadiene) (Cyclohexane)

DOMNIN, N.A.

DOMNIN, N.A.; CHERKASOVA, V.A.

~~Unsat~~ Unsaturated cyclic hydrocarbons and their derivatives. Part 21:
The reaction of 1-methyl-3,4-dibromocyclohexane with quinoline.
Zhur.ob.khim. 26 no.6:1618-1620 Je '56. (MIRA 11:1)

1.Leningradskiy gosudarstvennyy universitet.
(Cyclohexane) (Quinoline)

UNSATURATED CYCLO-ESTERONES and their derivatives

XX Transformation of methylcyclohexene and methyl

3,4-dibromocyclohexene, 1,2,3,4-tetra

My day

DOMNIN, N.A.

Investigations in the field of unsaturated cyclic hydrocarbons and their derivatives. Part 22: On the steric structure of bicyclo-(0,2,2)-hexane. Zhur. ob. khim. 26 no.8:2200-2201 Ag '56. (MIRA 10:11)

1. Leningradskiy gosudarstvennyy universitet.
(Bicyclohexane)

7
3
Unsaturated cyclic hydrocarbons and their derivatives.
XII. Structure of bicyclo[2.2.1]heptane / N. A. Uspenko
J. Gen. Chem. U.S.S.R. 16, 2100 (1941)
(in Eng.) — See C.A. 31, 4941

4E 4' f
u. f. d
11 96 20 4)
Smady

km

2
 1. Reaction of cyclopentane with
1,2-dichloroethane in cyclohexane and
cyclopentane. N. A. Dumin and N. B. Gubonina
 (Sov. Chem. Lett., 1964, No. 11, p. 2111)

EXPERIMENTAL
 Cyclopentane (10 g, 0.2 mole) was placed in a 100 ml. round-bottomed flask equipped with a magnetic stirrer and a reflux condenser. To this was added 1,2-dichloroethane (10 g, 0.2 mole) and the mixture was stirred at room temperature for 24 hr. Attempts to obtain a more concentrated solution in the behavior of the monomers are explained by steric hindrance and steric strain of the ring. XXV. Reaction of cyclopentane and cyclopentadiene with dimethylhydrazine. 7 (1964, 10, 1000). 1,2-cyclopentadiene in dry THF was added to a solution of 1 mole of dimethylhydrazine; after stirring 1 hr. the solvent was removed.

Dimin N.P. Gletovskaya, N.S.

... to be obtained similarly to 6,4-dimethyl-1,3-cyclohexanedione, in
 100-100% yield, mp 150-151, with 2.1 molar ratio
 of 6,4-dimethyl-1,3-cyclohexanedione to 2 moles Me₂NNH₂ in EtOH with heating and
 after evapn. of EtOH some mono-dimethylhydrazones
 m. 142-143° (purified by vacuum sublimation). The
 dimethylhydrazones could not be prepd. during treatment
 of 6,4-dimethyl-1,3-cyclohexanedione with 2 moles Me₂NNH₂
 in EtOH, mp 162-163°. Me₂NNH₂ (2 moles) with
 1 mole 1,4-cyclohexanedione in EtOH with immediate evapn.
 of EtOH gave some bis-dimethylhydrazones, m. 83-84°
 (purified by vacuum sublimation). To 1 mole 1,4-cyclohexanedione
 in dry EtOH was added gradually 1 mole Me₂NNH₂
 (dimethylhydrazine) by 74-80° 1.662, 1.5112, while with
 slight excess over 1 mole dimethylhydrazine, there was
 formed 11.5% bis-dimethylhydrazones, by 1.5112, 1.5112, 1.5112.
 The differences of behavior of the substances are
 likely to be due to the nature of a substituent.

DOMNIN, N.A.; GLEBOVSKAYA, N.S.

Research data on polymethylene rings. Part 24: Reaction of cyclopentane- and cyclohexanediones with dimethylhydrazine. Zhur. ob. khim. 27 no.3: 665-668, Mr '57. (MIRA 10:6)

1. Leningradskiy gosudarstvennyy universitet.
(Cyclopentanedione) (Cyclohexanedione) (Hydrazine)

DOMNIN, N.A.

~~DOMNIN, N.A.~~ ~~CHERKASOVA~~, V.A.

Research in the field of unsaturated cyclic hydrocarbons and their halide derivatives. Part 15: Reaction of 1,3-methylcyclohexadiene with hexabromoethane and quinoline. Zhur.ob.khim. 27 no.5:1214-1215 My '57. (MLRA 10:8)

1. Leningradskiy gosudarstvennyy universitet.
(Cyclohexadiene) (Ethane)
(Quinoline)

DOMNIN, N.A.; WANG-Hsu-K'UN; GLEBOVSKAYA, N.S.

Research in the field of polymethylene cycles. Part 27: Reactions and products of 1,4-cyclohexanedione and acetylacetone with hydrazine and dimethylhydrazine. Zhur. ob. khim. 27 no.6:1512-1516 Je '57.

(MLRA 10:8)

1. Leningradskiy gosudarstvennyy universitet.

(Cyclohexanedione) (Hydrazine) (Pentanedione)

DOMNIN, N.A.; ZELENIINA, M.N.; GLEBOVSKAYA, N.S.

Research in the field of polymethylene cycle. Part 27: Reactions and products of 1,4-cyclohexanedione and acetonylacetone with hydrazine and dimethylhydrazine. Zhur. ob. khim. 27 no.6:1516-1518 Je '57.

(MIRA 10:8)

1. Leningradskiy gosudarstvennyy universitet.
(Cyclohexanedione)(Hydrazine) (Hexanedione)

DOMIN, N.A.; ZELENINA, M.N.; OLEBOVSKAYA, N.S.

Studies in the field of polymethylene cycles. Part 28: Investigation of the products of reactions of acetylacetone with hydrazine. Zhur. ob. khim. 27 no.8:2088-2093 Ag '57. (MLBA 10:9)

1. Leningradskiy gosudarstvennyy universitet.
(Hexanedione) (Hydrazine)

Distr: 4E4J/4E2c (J)/
4E3c

7
Polymethylenes cyclic
of reaction of cyclic
tones with hydrazine
Domala, Syl-Kun V.
Leningrad. Zhur.
cf. C.A. 51, 16314d;
15 ml. dry EtOH to 4
with cooling, followed
ing 2 weeks gave 31%
124-6° (CH₂). Reaction of 0.2 g. Ac₂CH₂ in EtOH with
0.5 g. semicarbazide-5Cl and 0.5 g. KOAc in sq. EtOH in 2
days gave acetylacetone dimethylhydrazones, m. 224°. Et₂CH₂
heated with Me₂NNH₂ 1.5-2 hrs. at 150° or kept at room
temp. 6-7 days gave dibenzylmethane monodimethylhydra-
zone (I), m. 112-131; heated with large excess Me₂NNH₂,
Et₂CH₂ at 200° also gave only the above product. Et₂CH₂
(2 g.) and 2 g. acetylhydrazide in CHCl₃ gave in 1 hr. at 100°
dibenzylmethane monodimethylhydrazones, m. 125-5°. Reaction
of 0.8 g. 2,4-dinitrophenylhydrazine with 0.4 g. Et₂CH₂ in
EtOH gave dibenzylmethane mono-2,4-dinitrophenylhydra-
zone, m. 149-60°. Heating 2 g. I with 2 g. N₂H₄·H₂O 2.5
hrs. at 180° gave 2,6-dimethylpyrazole, m. 191-200°.
G. M. Kozlovskii

6
2-may
3

Handwritten signature

~~SECRET~~ N. A.

USSR/General Problems. Methodology. History. Scientific A
Institutions and Conferences. Instruction.
Questions Concerning Bibliography and Scien-
tific Documentation

Abs Jour : Ref Zhur-Khimiya, No 3, 1958, 6308
Author : N. A. Domnin
Inst :
Title : Fundamental Trends and Summary of Chemistry
Development in USSR in Forty Years
Orig Pub : Zh. obshch. khimii, 1957, 27, No 10, 2609-2629
Abstract : Bibliography with 48 titles.

Card 1/1

AUTHORS: Domnin, N. A., Sherkanova, V. A. SOV/79-22-4-14/66

TITLE: Investigations Concerning the Polymethyl Cyclic Compound.
(Issledovaniya v oblasti polimetilenovykh tsiklov)
XXI. The Decomposition Reaction of 1-Chloro-1,2-Dibromocyclohexane With Quinoline (XXI. Vzemodestviye 1-khloro-1,2-dibromtsiklogeksana s khinolinom).

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp.2064-2067 (USSR)

ABSTRACT: The authors previously showed that the decomposition reaction of 1-chloro-1,2-dibromocyclohexane with quinoline yields chlorobenzene (Ref 1). Its presence was proven by the nitration method. The literature indicated that the nitro-substituted compounds of benzene and its homologs are often formed by the nitration of the unsaturated cyclohexane hydrocarbons (Ref 2). The authors later found that 2,4-dinitrotoluene can be synthesized by nitrating methyl cyclohexene and by nitrating methyl cyclohexadiene-1,3 in a mixture which contains no toluene (Ref 3). As a result of these observations it was necessary to reject the classical nitration methods as means of proving the structures of aromatic hydrocarbons and their halogen derivatives, and also for those cases where unsaturated

Card 1/5

20V/73-28-8-14/66

Investigations Concerning the Polymethyl Cyclic Compounds. VIII. The Decomposition Reaction of 1-Chloro-1,2-Dibromocyclohexane with Quinoline

cyclohexene and cyclohexadiene hydrocarbons and their halogen derivatives are present in the mixture. The reliable methods of absorption spectroscopy in the ultraviolet region (of 4) were used to investigate the structure of the products of halogenating and dehalogenating the unsaturated cyclohexene hydrocarbons and the polyhalogen derivatives of cyclohexane. These methods showed that the decomposition reaction of 1-chloro-1,2-dibromocyclohexane with quinoline yields chlorobenzene (46 %) in addition to 1-chlorocyclohexene-1 and 2-chlorocyclohexadiene-1,3 when the fraction boiling at 132-136° contains chlorobenzene, benzene (14 %) and some cyclohexadiene-1,3. A mechanism is suggested for the synthesis of benzene and cyclohexadiene-1,3 from 1-chloro-1,2-dibromocyclohexane. There are 1 figure and 8 references, 7 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
Card 2/3 (Leningrad State University)

60V/79-28-8-14/66

Investigations Concerning the Polymethyl Cyclic Compounds. XXXI. The Decomposition Reaction of 1-Chloro-1,2-Dibromocyclohexane With Quinoline

SUBMITTED: July 20, 1957

Card 3/3

SOV / 79-28-6-7/63

AUTHORS: Domnin, N. A., Dyurnbaum, V. I., Cherkasova, V. A.

TITLE: Investigations in the Field of Polymethylene Cycles (Issledovaniya v oblasti polimetilenovykh tsiklov) XXX. Conversion of Diacetyl and Dibenzoyl With Dimethylhydrazine (Vzaimodeystviye diatsetila i dibenzoila s dimetilgidrazinom)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1469-1477 (USSR)

ABSTRACT: Of the dihydrazines synthesized by Domnin and his collaborators (Refs 1 - 3) those of cyclopentadione-1,2 and cyclohexadione-1,2 are the least stable. These facts were explained by the authors by proceeding from the structure of the five- and six-membered rings as well as from the spatial difficulties dependent on the presence of $=N-NH_2$ and $=N-N(CH_3)_2$ groups in the cyclic dihydrazones. For a further generalization it was necessary for the purpose of comparison to carry out the investigation of the conversion of the most simple aliphatic and aliphatic-aromatic 1,2-diketones with dimethylhydrazine. For this purpose the reaction of diacetyl and dibenzoyl with dimethylhydrazine was used. The authors used

Card 1/3

SOV/79-28-6-7/63

Investiations in the Field of Polymethylene Cycles. XXX. Conversion of Diacetyl and Dibenzoyl With Dimethylhydrazine

only the hydrazine in place of the latter (Ref 4). It must be noticed that, as had been shown already several times, the conversions of various diketones with hydrazine and dimethylhydrazine take a completely different course with different products being formed. The reactions of diacetyl and dibenzoyl with dimethylhydrazine are shown in both mentioned reaction processes. Thus the bis-dimethylhydrazone of diacetyl was for the first time synthesized and characterized. Dibenzoyl reacts only with one molecule of dimethylhydrazine and on this occasion forms two spatial α - and β -forms of monodimethylhydrazone. It was found that benzil does not form bis-dimethylhydrazones and that the carbonyl group of the monodimethylhydrazone reacts neither with hydroxylamine nor with hydrazine and dimethylhydrazine. In the case of a conversion of monodimethylhydrazone of benzil with hydrazinehydrate a benzilhydrazone results. The monodimethylhydrazone of benzil on heating converts to the 1-methyl-3,4-diphenylpyrazole. There are 5 figures, 2 tables, and 10 references, 6 of which are Soviet.

Card 2/3

SOV/79-28-6-7/63

Investigations in the Field of Polymethylene Cycles. XXX. Conversion of Diacetyl and Dibenzoyl With Dimethylhydrazine

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: July 20, 1957

1. Methyl hydrazines--Chemical reactions

Card 3/3

DOMNIN, N.A.; CHERKASOVA, V.A.

Polymethylene rings. 32: Conversions of cyclohexane in conjugated
halogenation and dehalogenation reactions. Zhur. ob.khim. 28
no.9:2334-2338 S '58. (MIRA 11;11)

1. Leningradskiy gosudarstvennyy universitet.
(Cyclohexane) (Halogenation)

AUTHOR: Domnin, N. A. SC7/79-28-12-1/41

TITLE: Stepan Nikolayevich Danilov - On the Occasion of His 70th Birthday and 45th Anniversary of Scientific and Pedagogic Activity (Stepan Nikolayevich Danilov - k semidesyatiletiyu so dnya rozhdeniya i sorokapyatiletiyu nauchnoy i pedagogicheskoy deyatel'nosti)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3157-3162 (USSR)

ABSTRACT: S. N. Danilov's activity is based on the acknowledged scientific ideas developed by Butlerov and Favorskiy. On the other hand the connection of his theoretical work with the requirements of practical life, the development of new and modern problems of science and technology is characteristic of him as a chemist. Soon after he had finished his studies he became assistant at the laboratory of A. Ye. Favorskiy, and in 1924 he began his lectures on the fundamentals of organic chemistry, especially on heterocyclic compounds and carbohydrates. The close relation between theory and practice as demonstrated by him was the reason for his advancement to the position of a Docent and Head of the

Card 1/3

Stepan Nikolayevich Danilov - On the Occasion of His 70th Birthday and 45th Anniversary of Scientific and Pedagogic Activity SOV/79-28-12-1/41

Department of Synthetic Fibers and the Processing of Cellulose at the Leningrad Chemotechnological Institute. Thus, he became the teacher of a great number of specialists in this important chemical field. He stayed in this position for 28 years. In 1948 he took over the chairs of the Structure of Organic High-Molecular Compounds at the Leningrad State University. At home and abroad he is known as the author of a great number of scientific treatises. The subject of his most important papers is the investigation of the isomeric transformations of extremely reactive organic compounds, as aldehydes, oxy-aldehydes, sugar etc. He devoted special attention to the effect of acid, alkaline and salt catalysis in isomeric transformations of carbonyl and oxy-carbonyl compounds, especially under conditions of simultaneous acid-alkaline reaction. The investigation of the isomerization of halogen aldehydes into acids offered him the possibility of correcting many papers written by other scientists. The results of the transformations of oxy-aldehydes and the

Card 2/3

Stepan Nikolayevich Danilov - On the Occasion of His 70th Birthday and 45th Anniversary of Scientific and Pedagogic Activity SOV/79-28-12-1/41

isomerization of oxy-ketones and chloro ketones were for the first time polarographically proved (Refs 79, 93, 95). His numerous determinations in the field of carbohydrates in connection with the above-mentioned work are of theoretical interest and practical importance. Danilov published monographs and critical essays on the molecular regroupings (Refs 101, 129, 138) and on the role played by the intermediate compounds in the isomeric transformations, as well as on the sugar chemistry in Russia (Ref 136). It must be noticed that his papers on cellulose, chitin, alginic acid, and their derivatives (Refs 82, 104, 117, 141) as well as on viscose and cuprammonia solutions in spinning have been incorporated into textbooks.

Card 3/3

SOV/54-59-2-8/24

5(0)
AUTHOR:

Domnin, N. A.

TITLE:

Stepan Nikolayevich Danilov, an Outstanding Representative of the Butlerov-Favorskiy School (Vydayushchiysya predstavitel' shkoly Butlerova-Favorskogo, Stepan Nikolayevich Danilov). On His 70th Birthday and 45th Anniversary of Scientific-pedagogic and Public Activity (K semidesyatiletiyu so dnya rozhdeniya i sorokapyatiletiyu nauchno-pedagogicheskoy i obshchestvennoy deyatel'nosti)

PERIODICAL:

Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 2, pp 63-65 (USSR)

ABSTRACT:

In January 1959, the Chemical Society celebrated the 70th birthday and 54th anniversary of scientific, pedagogic, and social activity of Stepan Nikolayevich Danilov, outstanding scientist (chemist), Corresponding Member, AS USSR, Professor of the Chemical Department of Leningrad University for many years. He was a representative of the famous scientific chemical school of Butlerov-Favorskiy. As a man of wide reading and leading scientist, he successfully developed outstanding ideas and continued the remarkable tradition of this school

Card 1/3

SOV/54-59-2-8/24
Stepan Nikolayevich Danilov, an Outstanding Representative of the Butlerov-Favorskiy School. On His 70th Birthday and 45th Anniversary of Scientific-pedagogic and Social Activity

for 45 years. Characteristic of his activity over many years was the close connection of his theoretical work with practical problems, and the development of new and actual problems of science and engineering. He was born in Vitebsk on January 6, 1889. There he attended the secondary school until 1908, entered then the Physical-mathematical Department of Petersburg University, and finished his studies there in 1914. Then he worked in the laboratory of A. Ye. Favorskiy. In 1915, he was appointed assistant. Since 1930 he worked as a teacher at the University. He conducted with great success the diploma works and the scientific works of the students. His lectures were distinguished by originality and a high theoretical standard. His principal interest of scientific activity was dedicated to the isomeric conversions and the detection of this conversion mechanism. He obtained much new and important material for the development of syntheses of new substances. He also succeeded in synthesizing many new organic compounds. From the experience of his investigations he directed himself

Card 2/3

SOV/54-59-2-8/24
Stepan Nikolayevich Danilov, an Outstanding Representative of the Butlerov-Favorskiy School. On His 70th Birthday and 45th Anniversary of Scientific-pedagogic and Social Activity

to the study of highly molecular compounds. He carried out all his scientific work with great success. The author wishes him many years of life and further successful activity for the benefit of the Russian people. His principal papers are listed. There is 1 figure.

SUBMITTED:

September 17, 1958

Card 3/3

DOMIN, A.A.

BR

PHASE I BOOK EXPLOITATION

SOV/4583

Leningrad. Universitet

Voprosy teorii stroyeniya organicheskikh soyedineniy (Problems in the Theory of the Structure of Organic Compounds) [Leningrad] 1960. 239 p. Errata slip inserted. 3,725 copies printed.

Sponsoring Agency: Leningradskiy ordena Lenina Gosudarstvennyy universitet im. A.A. Zhdanova.

Resp. Ed.: T.A. Favorskaya; Ed.: V.D. Piastro; Tech. Ed.: S.D. Vodolagina.

PURPOSE: This collection of articles is intended for chemists and organic chemists.

COVERAGE: The collection is concerned with the scientific legacy of A.Ye. Favorskiy, and includes discussions of his theoretical views and their evolution in connection with the development of theoretical organic chemistry. The articles review problems on the structure, reactivity and transformations of various classes of organic compounds: unsaturated acyclic and cyclic hydrocarbons, saturated and unsaturated alcohols, glycols and carbonyl compounds. No personalities are mentioned. References accompany each article.

~~Card 1/3~~

Problems in the Theory of the Structure (Cont.)

SOV/4583

TABLE OF CONTENTS:

From the Editors	5
Danilov, S.N. Evolution of A.Ye. Favorskiy's Ideas on the Course of Chemical Reactions and Present-Day Understanding of the Mechanisms of Favorskiy Reactions	7
Zakharova, A.I. Development of A.Ye. Favorskiy's Work on Synthesis and Conversions of Acetylene Hydrocarbons and Their Halogen Derivatives	52
Domnin, M.A., R.Ch. Kolinskiy, and V.A. Cherkasova. Development of A.Ye. Favorskiy's Work in the Field of Polymethylene Cycles	68
Lebedeva, A.I. Development of A.Ye. Favorskiy's Ideas on the Synthesis of Terpenes and Related Compounds by the Soviet School of Chemists	126
Yanovskaya, L.A., and V.F. Kucherov. Role of A.Ye. Favorskiy's Research on the Synthesis of Isoprenoid Compounds	135

Card 2/3

DOMININ, N.A.

A.E.Favorskii, 1860-1945; apropos of the one hundredth anniversary of his birth. Analele chimie 15 no.4:151-165 O-D '60. (ERAI 10:3)
(Favorskii, Alexei Efgrafovich)
(Chemists, Russian)

5.3610

78262

SOV/79-30-3-16/69

AUTHORS: Domnin, N. A., Koltunov, R. Ch.

TITLE: Investigation of the Polymethylene Rings. XXXIV.
Investigation of the Absorption Spectra of Dibenzosuberane-6,7-dione Monohydrazone and Benzil Monohydrazone

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3,
pp 799-805 (USSR)

ABSTRACT: The ultraviolet spectra of the compounds investigated are shown in Table 1. The infrared spectra of the same compounds in CHCl_3 are shown in Table 2. On the basis of the obtained spectra it was established that the dibenzosuberane-6,7-dione monohydrazone can exist in the form of a hydrazone and does not have any tautomeric properties. The cis-configuration of dibenzosuberane-6,7-dione monohydrazone was confirmed by its infrared spectrum and anticonfiguration was suggested for dibenzosuberane-6,7-dione monooxime.

Card 1/4

Investigation of the Polyethylene Rings.
XXXIV

78262

SOV/79-30-3-16/69

The shift of the absorption band of the keto group in monohydrazones was explained by its stereochemistry and the possible existence of a chelate ring. There are 3 figures; 2 tables; and 17 references, 5 Soviet, 4 U.K., 4 U.S., 2 German, 1 Dutch, 1 Canadian. The 5 U.S. and U.K. references are: Rasmunssena, R. S., et al., coll., J. Am. Chem. Soc., 71, 1068 (1949); Cromwell, N. H., et al., J. Am. Chem. Soc., 71, 3337 (1949); Leonard, N. J., et al., J. Am. Chem. Soc., 77, 5078 (1955); Hadzi, D., J. Chem. Soc., 1956, 2143; Leonard, N. J., et al., J. Am. Chem. Soc., 71, 2997 (1949).

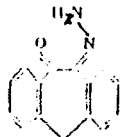
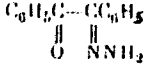
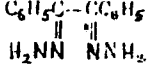
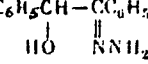
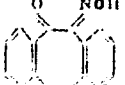
ASSOCIATION: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

SUBMITTED: December 30, 1958

Card 2/4

7000 SOV/ 10-3-16/69

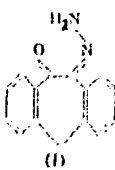
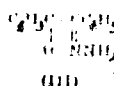
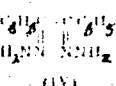
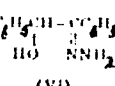
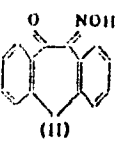
Table 1. Absorption maxima of Compounds (I), (II), (III), (IV), (V), (VI)

Formula	No of Constituents	λ_{max}	$\log \epsilon$	λ_{max}	$\log \epsilon$
	(I)	245	4.08	348	3.84
$C_6H_5C(=O)CC_6H_5$ 	(III)	253	4.05	295	4.05
$C_6H_5C(=O)CC_6H_5$ 	(IV)	275	4.39		
$C_6H_5CH(OH)CC_6H_5$ 	(VI)	250	3.40		
	(II)	275	4.08	350	2.4

Card 3/4

30V/1-30-1-16/69

Table 2. Absorption Bands of Compounds (I), (II), (III), (IV), (VI) in Chloroform Solutions (cm^{-1}).

 (I)	 (III)	 (IV)	 (VI)	 (II)
NH { 3340 STRONG 3340 WEAK OH 3140 MEDIUM C=O { 1620 STRONG (1607) 1604 MEDIUM C=C 1587 STRONG C=N 1543 STRONG ~1522 O 1484	3398 STRONG 3295 STRONG 3196 STRONG 1647 STRONG (1627) 1607 STRONG 1565 STRONG 1492 STRONG	3344 STRONG 3268 WEAK 3190 MEDIUM 1620 STRONG 1587 STRONG 1565 STRONG 1522 WEAK 1492	3344 STRONG 3268 WEAK 3190 MEDIUM 1620 STRONG 1587 STRONG 1565 STRONG 1522 WEAK 1492	3200 BROAD 1665 STRONG (1674) 1604 STRONG ~1573 ~1544 1529 MEDIUM 1502 STRONG

Card 4/4

5.3610

77399

SOV/79-30-1-60/78

AUTHORS: Domnin, N. A., Kolinskiy, R. Ch.

TITLE: Investigations of Polymethylene Rings. XXXIII.
Concerning the Reaction Between Dibenzosuberane-6,7-
dione and Hydrazine

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 270-275
(USSR)

ABSTRACT: This is a continuation of investigations of polymethylene rings. A short review of the previous work in this field is given. Synthesis of dibenzosuberane-6,7-dione (I) is described. (I) was obtained previously by J. Rigaudy and L. Nedelec (C. r., 236, 1287, 1953) but the conditions of reaction were not given. The authors of this article describe the preparation of (I) as follows: 0.05 M solution of SeO_2 in aqueous acetic acid was added (dropwise in 1.5 hour) to the boiling mixture of dibenzosuberone-6 and glacial acetic acid, then

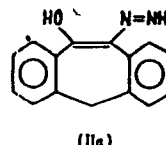
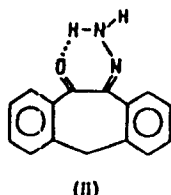
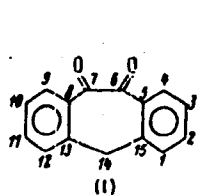
Card 1/4

Investigations of Polymethylene Rings.
XXXIII.

77399

SOV/79-30-1-60/78

boiled for 8 hours and left overnight. After filtering, concentrating, and cooling, yellow crystals of (I) (36%), mp 162-164°, were obtained. An alcoholic or acetic acid solution of (I) reacts with propanolic solution of hydrazine hydrate to form monohydrazone (II) (65%), mp 131-132°.



Card 2/4

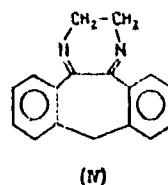
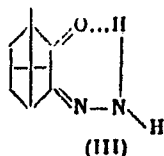
An attempt to prepare a dihydrazone of (I), according to J. van Alpen (Rec. trav. chim., 54, 443, 1935), lead to the formation of dihydropyrazine (IV) of (I) mp

Investigations of Polymethylene Rings.
XXXIII.

77399

SOV/79-30-1-60/78

130-133° (from alcohol). The latter is not changed by the action of hydrazine. (II) and (III) were obtained for the first time.



It was found that (II) does not react with an ether solution of diazomethane, does not give a positive test for enolic hydroxyl, and is insoluble in alkali; this disproves the existence of its tautomeric form (IIa), as was first assumed. As an explanation of the chemical properties of (II), the authors suggested that it has a syn-hydrazonic structure. This suggestion is confirmed by the

Card 3/4

Investigations of Polymethylene Rings.
XXXIII.

77399
SOV/79-30-1-60/78

similarities of the properties of (II) and β -mono-hydrazone of camphorquinone (III). Syn-configuration of the latter was established by Han-Ching Yuan and Kou-Ching Hua (J. Chinese Chem. Soc., 7, 76, 1940). Inability of (I) to form dihydrazone indicates that molecule has a chelate structure. A crystalline compound with mp 245-247° was obtained unexpectedly by the reaction between (I) and dimethylhydrazine. Apparently it is a product of condensation of (I), but it requires further study. There are 12 references, 1 U.S., 1 U.K., 1 Swiss, 1 French, 1 Chinese, 1 Dutch, 6 Soviet. The U.S. and U.K. references are: A. T. Blomquist a. others; J. Am. Chem. Soc., 73, 5510 (1951); E. de Barry Barnett a. others, J. Chem. Soc., 1927, 504.

ASSOCIATION: Leningrad State University (Leningradskiy gosudarstvennyy universitet)

SUBMITTED: December 30, 1958
Card 4/4

53610

2209, 1153, 1195

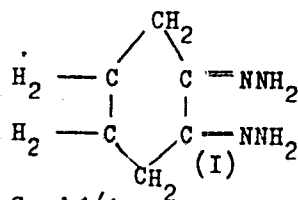
S/079/60/030/008/009/012/XX
B001/B066

AUTHORS: Domnin, N. A., Isakova, S. A., and Kolinskiy, R. Ch.

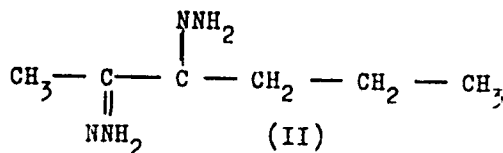
TITLE: Investigations in the Field of Polymethylene Rings.
XXXV. Synthesis of Dihydrazones of Cyclohexanedione-1,2 and
Hexanedione-2,3

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 8, pp. 2480-2484

TEXT: The purpose of the present work was to synthesize the dihydrazone of cyclohexanedione (I) which had been characterized incompletely by N. A. Domnin and N. S. Glebovskaya (Ref. 1). For comparison, also the synthesis of the acyclic dihydrazone of hexanedione-2,3 (II) was performed.



Card 1/4



85712

Investigations in the Field of Polymethylene Rings. XXXV. Synthesis of Dihydrazones of Cyclohexanedione-1,2 and Hexanedione-2,3

S/079/60/030/008/009/012/XX
B001/B066

The modification of the conditions of synthesis described in Ref. 1 proved to be ineffective. When adding hydrazine to cyclohexanedione-1,2, the reaction product was always an orange oil which did not crystallize. Only after a storage of several months a small number of crystals were formed which, after separation from the oil and recrystallization, were identified to be the dihydrazone of the ketazine of cyclohexanedione-1,2 (III). Only in one case a large dihydrazone (I) crystal separated out (Ref. 1). Compound (III) is probably formed according to scheme 1. The cyclohexanedione-1,2 (IV) has an enol form (Ref. 2). As the other intermediates could not be separated, their structural formulas are only hypothetical. The formation of dihydrazone (I) seems little likely under these conditions, all the more since it could be separated in one experiment only. In view of these facts, the authors changed the order in which the reagents are added, and obtained good dihydrazone (I) yields. It was difficultly crystallized from the reaction mass which represented a supersaturated solution of (I) in alcohol, water, and hydrazine. Dihydrazone (I) is easily soluble in

Card 2/4

05/12

Investigations in the Field of Polymethylene
Rings. XXXV. Synthesis of Dihydrazones of
Cyclohexanedione-1,2 and Hexanedione-2,3

S/079/60/030/008/009/012/XX
B001/B066

these solvents, so that no crystals could form. Crystallization was only induced by inoculation and by recrystallization from benzene. The dihydrazone structure was confirmed by ultimate analysis and determination of the molecular weight. It was not possible to prove the presence of a C=N double bond by spectrum analysis of dihydrazone (I), as its intensity in the infrared spectrum is low; but a primary amino group and the absence of a keto group were confirmed in this way. The dihydrazone of hexanedione-2,3 (II) was synthesized by the method of Ref. 3 to compare its properties with those of dihydrazone (I), and to see whether steric hindrances were the cause of the difficult synthesis of the latter. The investigation showed that in the formation of both dihydrazones, (I) and (II), no steric hindrances are observed. This fact was already confirmed when studying the models of these compounds. There are 8 references: 6 Soviet, 1 Italian, and 1 German.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

Card 3/4

85712

Investigations in the Field of Polymethylene
Rings, XXXV. Synthesis of Dihydrazones of
Cyclohexanedione-1,2 and Hexanedione-2,3

S/079/60/030/008/009/012/XX
B001/B066

SUBMITTED: July 27, 1959

✓

Card 4/4

FAVORSKIY, Aleksey Yevgrafovich, khimik, prof., akademik, Geroy Sotsialisticheskogo Truda [1860-1845]; FAVORSKAYA, T.A., prof. [translator]; DANILOV, S.N., otv. red.; DOMININ, N.A., prof., doktor khim. nauk, red.; MURASHOV, G.M., kand. khim. nauk, red.; KAPLAN, M.Ya., red.izd-va; KONDRAT'YEVA, M.N., tekhn. red.

[Akademician Aleksei Evgrafovich Favorskii; selected works] Izbrannye trudy. Moskva, Izi-vo Akad. nauk SSSR, 1961. 790 p.

(MIRA 14:11)

1. Chlen-korrespondent AN SSSR (for Danilov).

(Favorskii, Aleksei Evgrafovich, 1860-1945) (Chemistry, Organic)

2220A

S/079/61/031/006/001/005
D223/D305

53610

2209, 1153, 1375

AUTHORS: Domnin, N.A. and Kolinskiy, R.Ch.

TITLE: On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 6, 1961, 1799-1805

TEXT: In 1936 it was shown that an attempt to introduce a triple bond into a seven-membered ring resulted in the formation of hydrocarbon with an allene bond in a seven-membered ring, i.e. cycloheptadiene - 1,2 (Ref 1: A.Ye. Favorskiy, M.F. Shostakovskiy, N.A. Domnin, ZhOKh, 6, 720 (1936)), and not as expected cycloheptene. The formation of cycloheptadiene - 1,2 was explained by the isomeric transformation at the moment of formation of cycloheptene, i.e. its inability for longer existence. While it has been established that cyclic polymethylenes with triple bond are able to exist in 8-membered and higher rings, the same has remained to be discovered for 7-membered rings. The authors' Card 1/7

2220₁

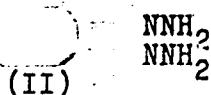
S/079/61/031/006/001/005
D223/D305

On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene

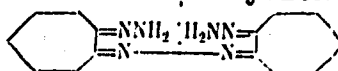
previous work (Ref 5: ZhOKh, 30, 270, 799 (1960)), as well as the current article investigate this problem, especially the study of the reaction of hydrazine with cycloheptadiene - 1,2

(I) 0

This reaction depending on the conditions under which the reaction takes place, gives different products: dihydrazon cycloheptadiene - 1,2



- 1,2



(III)

and resin which is probably the result of ketazine polymerization. The best method of preparing dihydrazon (II) is addition of diketone (I) to the cooled alcoholic solution (to 0°C) of hydrazine. The important part of the method consists in using an excess of hydrazine. After removing the solvent the reaction mixture is left to crystallize over several weeks; if on the other hand a

Card 2/7

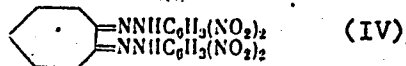
22201

3/079/61/031/006/001/005
D223/D205

On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene

crystal of dihydrazone (II) is added, the crystallization is complete in a day. The structure of dihydrazone (II) was confirmed by its chemical behavior. In the presence of a sulphuric acid solution of 2,4 -dinitrophenylhydrazine (Ref. 9: R. Shrayner, R. F'yuson, Sistematcheskiiy kachestvennyy analiz organicheskikh soyedineniy (The systematic qualitative analysis of organic compounds), M., 173 (1950)). dihydrazon (II) hydrolyzes into bis (2,4 -dinitrophenylhydrazone) cyclopentadione - 1.2 (IV) and hydrazine sulphate. This reaction is a useful way of determining the nature of different hydrazones since it does give acetone and hydrazine. The structure of ketazine (III) was established by the analysis of infra-red spectrum. The presence of NH_2 -group (frequency $3371, 3305, 3266 \text{ cm}^{-1}$) was detected and the absence of C=O groups (the absence of absorption maximum in the region $1900-1500 \text{ cm}^{-1}$). Reaction with sulphuric acid solution of 2,4 -dinitrophenylhydrazine, after heating, yielded bis (2,4 -dinitrophenylhydrazone) cycloheptadion -1.2

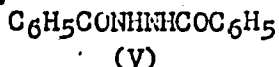
Card 3/7



22201

S/079/61/031/006/001/005
D223/D305

On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene and hydrazine sulphate. The ketazine (III) with picric acid forms hydrazine picrate and with benzoylchloride (Schotten-Bauman) N,N'-dibenzoylhydrazine. ✓



Test consideration of the space structure of cycloheptadion -1.2 has shown that it alternates in chair and boat form. The 7-membered ring appears mobile so that the carbonyl group plane as a result of dipole repulsion forms an angle of about 90-100°. Such repulsion acts against the bonding of carbonyl groups and hence, in the reaction with hydrazine they behave as free carbonyl groups. Test considerations have shown the absence of space barriers in a diketone (I) and dihydrazone (II) molecule. The water formed during reaction in cases of experiments with benzene and toluene was removed from the reaction medium in the form of azeotrope with the solvent. In the case of experiments carried out in ether, the

Card 4/7

22201

S/079/61/031/006/001/005
D223/D305

On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene

water was combined by addition to the reaction mixture of calcined MgSO_4 . The course of oxidation was followed by measuring the removed water, the evolved nitrogen and, hence, the percentage composition of nitrogen in the product of reaction determined. The last method proved very reliable. The oxidation of dihydrazone (II) (77 gms) was also carried out in ether, in a autoclave at $130-150^\circ\text{C}$. The oxidation was found to be incomplete - the residual resin contained 13% of nitrogen. Immediately after distillation the infra-red spectrum was taken in the region of 2000 cm^{-1} (LiF prism). The product from the trap after removing traces of ether showed a maximum absorption in the region of $1921-1925\text{ cm}^{-1}$ which corresponds to the allene bond. The liquid fraction showed absorption in the region of 2241 and 2218 cm^{-1} which according to literature corresponds to the acetylene bond. Beside these, the infra-red spectrum showed the presence of bonds at about 1740 cm^{-1} (COOH), 1718 cm^{-1} (C = O), 1640 cm^{-1} (C = C). All fractions decolor-
Card 5/7

X

22201

S/079/61/031/006/001/005
D223/D305

On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene

ized the bromine solution in CCl_4 and darkened on storage. In liquid fractions the presence of ketones was detected (by their reaction with 2,4-dinitrophenylhydrazine) and bis (2,4-dinitrophenylhydrazone) cycloheptadione-1.2 (IV) and 2,4-dinitrophenylhydrazone subarate. The fractions boiling between 60-100°C (0.5 mm) were checked for the presence of cycloheptadiene-1.3 by maleic anhydride but no bonding occurred. The fraction boiling at 100-130°C and 135-160°C (0.5 mm) were found to be soluble in hydrochloric acid which indicates the presence of dihydrazone polymerization products. Chemical investigation has shown that dihydrazone oxidation takes place when using benzene and toluene solvent. The corresponding cycloheptene could not be separated and established the presence of polymerization products and formation of organic mercury compounds.

Card 6/7

22201

S/079/61/031/006/001/005
D223/D305

On the question of the possibility of existence of a seven-membered ring with the triple bond-cycloheptene

There are 13 references, 6 Soviet-bloc and 7 non-Soviet-bloc. The references to the English-language publications read as follows:
A.T. Blomquist, J. Am. Chem. Soc., 73, 5510 (1951); V. Prelog, Helv. Chim. Acta, 35 1598 (1952); F.F. Elicke, J. A., Chem. Soc., 74, 2924 (1952); J.W. Cook, J. Chem. Soc., 1952, 4416.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (State University of Leningrad)

SUBMITTED: June 6, 1960

Card 7/7

DOMNIN, N.A.; OBESHCHALOVA, N.V.; KOLINSKIY, R. Ch.

Polymethylene rings. Part 37: Transformations of polyhalo-
substituted cyclopentane. Zhur.ob.khim. 31 no.8:2768-2773
Ag '61. (MIRA 14:8)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.
Zhdanova.

(Cyclopentane)

DOMNIN, N.A.; GLEBOVSKAYA, N.S.

Some new derivatives of cyclic β -diketones. Zhur.ob.khim. 31
no.10:3481-3483 0 '61. (MIRA 14:10)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
(Ketone)

BYKOV, Georgiy Vladimirovich; DOMNIN, N.A., otv. red.; IOFFE, V.G.,
red. izd-va; GUS'KOVA, O.M.; tekhn. red.

[History of electron theories in organic chemistry] Istorii
elektronnykh teorii organicheskoi khimii. Moskva, Izd-vo
Akad. nauk SSSR, 1963. 422 p. (MIRA 16:7)
(Chemistry, Organic) (Electrons)

DOMNIN, N.A.; IVANOVA, L.P.; CHERKASOVA, V.A.

Interaction of asymm-diethylhydrazine with some aliphatic
ketones. Zhur. ob. khim. 34 no.7:2116-2118 J1 '64
(MIRA 17:8)

1. Leningradskiy gosudarstvennyy universitet.

DOMNIN, N.A.; KURENNAYA, L.N.; CHERKASOVA, V.A.

Polymethylene rings. Part 39: Conversion of 1-chloro-1-cyclohexene
by the action of bromine. Zhur. ob. khim. 34 no.9:2848-2851 3 '64.
(MIRA 17:11)

1. Leningradskiy gosudarstvennyy universitet.

1 45235-65 EWT(m)/EPF(c)/ENR(j)/EWA(c) Pc-4/Pr-4 RM
 ACCESSION NR: AF5008721 S/0366/65/001/003/0611/0611

AUTHORS: Domnin, N. A.; Yakimovich, S. I.

TITLE: Reaction of C-alkylated β -diketones with uns. N,N-dialkylhydrazines

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 3, 1965, 611

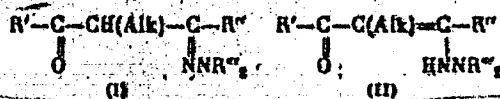
TOPIC TAGS: alkylation

ABSTRACT: In continuing their study of monodialkylhydrazones of β -diketones, the authors established that the monodialkylhydrazones of C-methyl-, ethyl-, and n.-butyl-acetylacetones are equilibrium mixtures of tautomeric ketohydrazones and keto-n-hydrazine forms (I, II). They thus differ fundamentally from the monodialkylhydrazones of aliphatic β -diketones with unbranching chains, which exist only in the keto-n-hydrazine form. The position of tautomeric equilibrium of monodialkylhydrazones of C-alkylated β -diketones in solutions depends on the solubilities. In more polar solvents the content of the keto-n-hydrazine form diminishes. Monodimethyl- and monodiethylhydrazones of C-methylbenzoylacetone exist only in the ketohydrazone form

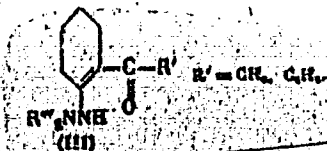
Card 1/3

L 45235-65

ACCESSION NR: AP5038721



The appearance of the ketohydrazone form in the reaction of C-alkylated β -diketones with dialkylhydrazines may be due, apparently, to steric reaction in the keto-n-hydrazone form between the alkyl and R' and R'' radicals. Such reaction is weakened for the ketohydrazone form, and this compensates to some extent the impossibility of supplementary stabilization of this form because of formation of the hydrogen bond, as takes place in the keto-n-hydrazine form. Monodimethyl- and monoethylhydrazones of 2-acetyl- and 2-benzoylcyclohexanes, which may be considered C-alkylated β -diketones, exist only in the keto-n-hydrazine form (III). Obviously the special geometry of the cyclohexane ring excludes the weak steric reaction in the keto-n-hydrazine form, which characterizes the derivatives of C-alkylated β -diketones.



Card 2/3

L 45235-65
ACCESSION NR: AP5008721

Orig. art. has: 2 formulas.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: 30Jun64

ENCL: 00

SUB CODE: 00, *LIC*

NO REF SOV: 001

OTHER: 000

ce
Card 3/3

L 51073-65 EWT(m)/EWF(c)/EPR/EWP(j)/T/EWA(c) Pc-4/Pr-4/Ps-4 RPL BW/
 WW/JW/JWD/RM
 UR/0366/65/001/004/0653/0666
 ACCESSION NR: AP5011189

AUTHORS: Domnin, N. A.; Yakimovich, S. I.

TITLE: Reaction of beta dicarbonyl compounds with hydrazines. 1. Interaction of aliphatic beta diketones with uns-N,N-dialkylhydrazines

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 4, 1965, 658-666

TOPIC TAGS: aliphatic compound, IR spectrum, nuclear magnetic resonance, chelate

ABSTRACT: The reaction of aliphatic beta ketones with dimethyl hydrazine and diethyl hydrazine was studied by investigating reactions with three symmetrical beta diketones of the type RCOCH_2COR ($\text{R} = \text{CH}_3, \text{C}_2\text{H}_5, \text{iso-C}_4\text{H}_9$) and three unsymmetrical forms of the type $\text{CH}_3\text{COCH}_2\text{COR}^n$ ($\text{R}^n = \text{C}_2\text{H}_5, \text{iso-C}_4\text{H}_9, \text{tert-C}_4\text{H}_9$). All these react readily with one dialkyl hydrazine molecule. Infrared and nuclear magnetic resonance spectra show that the reaction products having one dialkyl hydrazine molecule have keto-n-hydrazine cis-chelate structure with a strong intramolecular hydrogen bond. It is shown that the possibility of adding a second dialkyl hydrazine molecule depends chiefly on the steric barriers for access of the nucleophilic reagent. Two molecules of dimethyl hydrazine of the

Card 1/2